

CHAPTER 2

TRAINING

Maintaining a well trained crew requires a formalized education and training program. The extent of the training mission of the Navy depends upon future qualitative and quantitative requirements. Planning for training is a problem of comparing current onboard skills with future requirements and providing the education and training necessary to compensate for prospective losses in each of the many specialties.

The immediate objective of training is to enhance knowledge and practical abilities so personnel can better perform their duties. Continuing personnel shortages, rapid turnover of personnel, and heavy demands placed on the time of shipboard personnel are recognized obstacles which must be overcome in establishing and managing a successful shipboard training program. Shipboard training and material maintenance are two of the major factors contributing to battle readiness. Neither requirement can be said to be more important than the other except that training is a prerequisite to proper maintenance. In the absence of a vigorous and continuing shipboard training program, sustained combat readiness is impossible.

To carry out the Navy's mission, modern naval warships and aircraft are equipped with elaborate devices for detecting, engaging, and destroying the enemy. To reach their designed effectiveness, these complicated machines must be manned by highly trained personnel. The ultimate purpose of naval training is to educate and train Navy personnel in a manner that will ensure efficient employment of modern naval material and principles. The education and training program of the Navy rests upon

foundations which have evolved through years of naval experience.

The basis of all training is the development of skills in the individual. The individual is trained to fill successfully a billet aboard ship and to prepare for advancement in rating and for more responsibilities. Group training, or training of a ship's complement can only be accomplished with a successful individual training program as a base.

You, as Electronics Material Officer, have the responsibility of training all personnel in certain basic electronics training categories, in addition to assuring that the personnel in the division are trained in all professional categories. A portion of this training should be performed as a part of the orientation and indoctrination of all new personnel reporting aboard. Other parts may be accomplished by on-the-job training. However, some subjects lend themselves to more formal training.

SHIPBOARD TRAINING ORGANIZATION

Basic policies for the administration and conduct of shipboard training are set forth in *U.S. Navy Regulations*, and in *Standard Organization and Regulations of the U.S. Navy* OPNAVINST 3120.32 series. However, close attention must be given to the training requirements of the individual ship. Training methods will vary from ship to ship, depending on the size, design, and personnel allowance. Each ship's training time must be carefully balanced

with the time allotted for maintenance. Once a balance is established, programs for training and maintenance should be carefully planned, executed, and controlled.

Figure 2-1 shows a typical shipboard training organization. On small ships the executive officer may assume all the functions of the training officer, and the division officer or the senior petty officer may perform all the duties of the division training officer. The EMO will conduct training, as division officer, which will include subject matter pertinent to enlisted personnel of the electronics divisions or other segments of the ship or briefings for more senior officers.

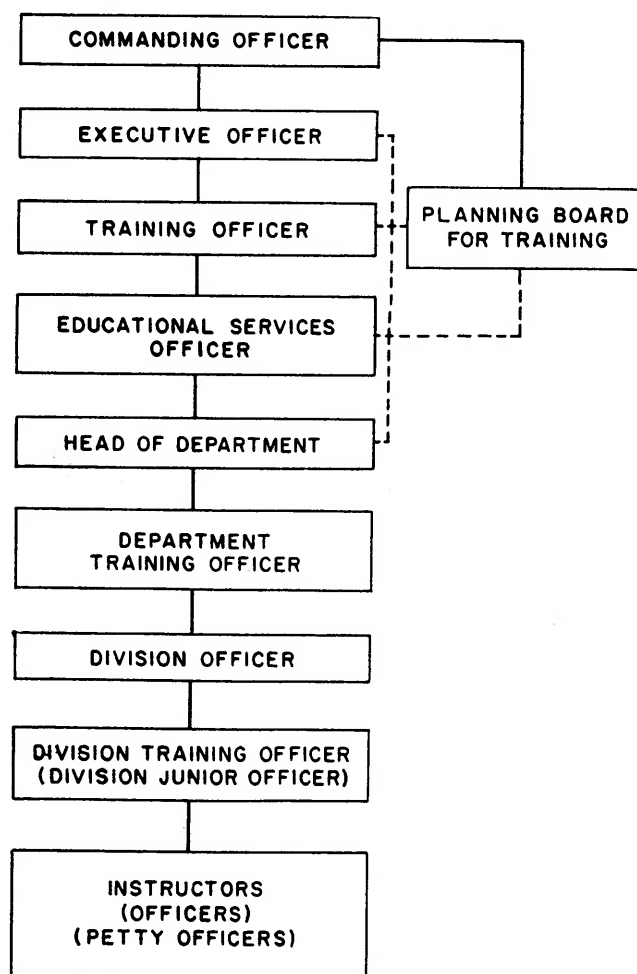


Figure 2-1.—Shipboard training organization.

The Planning Board for Training is responsible to the commanding officer for developing a unit's training program with the ultimate goal of producing well-trained and qualified personnel. The planning board is comprised of the personnel shown in figure 2-2. The training board's duties are outlined in *Standard Organization and Regulations of the U.S. Navy*, OP-NAVINST 3120.32 series. The board will meet as directed by the chairman and no less often than monthly after the training program begins to function to evaluate progress, coordinate action, and propose changes as necessary. The personal knowledge of members, the reports of the educational officer, and the various control devices used will all indicate points at which action should be taken to improve coordination.

Progress is the only true measure of the training program's efficiency and effectiveness. To state simply that a certain amount of training has been done means nothing. Quality training will improve morale and motivation as well as skills and knowledge. You should constantly reevaluate the program to ensure the highest possible quality.

Although the original program is designed with utmost care, the need for change will be caused by a number of variables.

Following are some items which should be examined periodically for their possible effect on the training program:

1. Change in nature or schedule of operation
2. New or improved equipment
3. Change in the technical knowledge or skill required for performance of duty in any rating
4. Change in personnel
5. Change in regulations or procedures under which the ship is operating
6. Completion of any phase of the training program

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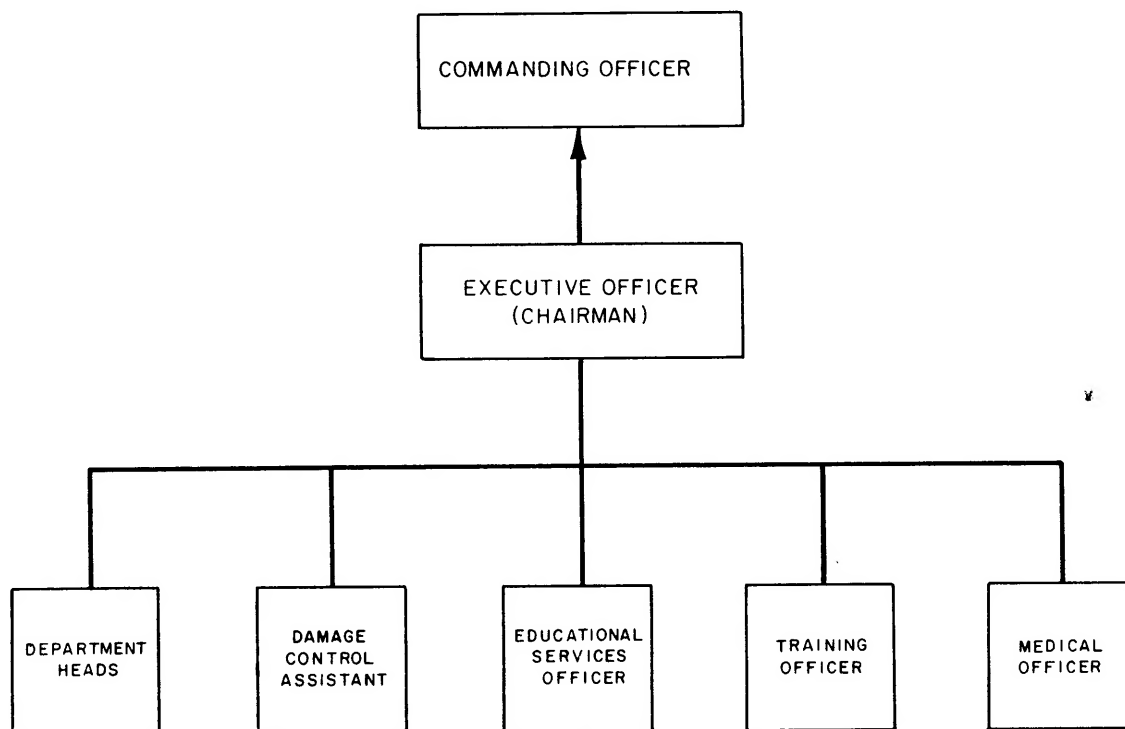


Figure 2-2.—Planning Board for Training.

7. Unforeseen obstacles to coordination or completion of the program

8. Increasing or decreasing facilities and availability of fleet and shore-based training establishments

It is apparent in these considerations that the responsibility of the planning board does not end with issuance of the training schedule. Every exercise or training program must be formally reviewed by the planning board. Division officers and petty officers should daily review the effectiveness of the training program so that the necessary data will be available to the board members for evaluation.

TRAINING SCHEDULES AND RECORDS

Scheduling of shipboard training requires the careful attention of the training officer, department heads, and division officers to minimize conflict in ship's activities and to ensure that the time allotted to training is used

to best advantage. The only justification for a record of training is that it provides continuity to the training program by indicating what training has been accomplished. It is emphasized that records should be kept to an absolute minimum consistent with needs. When possible, the same forms used to schedule planned training should be used to record completed training. Therefore, standard forms which provide considerable flexibility have been developed. The training records are:

Long Range/Quarterly Training Plan (fig. 2-3) OPNAV Form 3120.1A

Monthly Training Plan (fig. 2-4), locally prepared

TYCOM Required Training Exercises, Trials and Inspections (fig. 2-5) General Record (Type I), OPNAV Form 1500-30

Division Drill and Instruction Schedule (fig. 2-6 and 2-7) General Record (Type III), OPNAV Form 1500-32

LONG RANGE TRAINING PLAN

FIRST QUARTER AFTER REGULAR OVERHAUL JULY (CALENDAR YEAR) SEPTEMBER (CALENDAR YEAR)

PREPARED

| CONFIDENTIAL (WHEN FILLED IN) | | | | JULY | | | | AUGUST | | | | SEPTEMBER | | | | OCT | | | | |
|--|--|--|--|------|---|---|----|--------|----|---|----|-----------|----|---|---|-----|----|----|---|---|
| | | | | 1 | 4 | 7 | 14 | 21 | 28 | 4 | 11 | 18 | 25 | 1 | 8 | 15 | 22 | 29 | 4 | 6 |
| Employment | | | | | | | | | | | | | | | | | | | | |
| Major Maintenance Projects, Trials and Tests | | | | | | | | | | | | | | | | | | | | |
| Inspections and Examinations | | | | | | | | | | | | | | | | | | | | |
| Operational Readiness Exercises (Compelast) | | | | | | | | | | | | | | | | | | | | |
| Team Training Ashore | | | | | | | | | | | | | | | | | | | | |
| School Training Ashore (Individual) | | | | | | | | | | | | | | | | | | | | |
| General and Operational Drills | | | | | | | | | | | | | | | | | | | | |
| Professional Training | | | | | | | | | | | | | | | | | | | | |
| OPS | | | | | | | | | | | | | | | | | | | | |
| NAV | | | | | | | | | | | | | | | | | | | | |
| WEPS | | | | | | | | | | | | | | | | | | | | |
| SUP | | | | | | | | | | | | | | | | | | | | |
| ENGR | | | | | | | | | | | | | | | | | | | | |
| General Military Training | | | | | | | | | | | | | | | | | | | | |
| Officer Training | | | | | | | | | | | | | | | | | | | | |
| Miscellaneous Activities | | | | | | | | | | | | | | | | | | | | |
| SAMPLE PAGE --- UNCLASSIFIED | | | | | | | | | | | | | | | | | | | | |
| CONFIDENTIAL (WHEN FILLED IN) | | | | | | | | | | | | | | | | | | | | |

Figure 2-3.—Long range/quarterly training plan.

| MONTHLY TRAINING PLAN | | | | | | |
|---|---|---|--|---|--|--|
| JULY | | | 1981 | | | |
| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
| OPPORTUNE: Z-26-S (R) Z-28-S (O) Z-29-S Z-13-CC | 1 G. Q. Z-10-D NBC LECTURE INTELLIGENCE BRIEFING UNREP: 3 DER | 2 DIVISIONAL SCHOOL J. O. SCHOOL CRYPTO DRILL UNREP: 2 MSO | 3 DIVISIONAL SCHOOL J. O. SCHOOL INREP: AN THOI | 4 HAND GRENADE & SMALL ARMS TRAIN- ING ALL DAY FOR DECK AND OPS | 5 FIELD DAY | 6 G. Q. BATTLE PROB. Z-6-D Z-11-S (R) Z-10-D Z-14-S Z-24-D Z-27-D Z-52-D Z-111-E (R) |
| 7 ARRIVE SUBIC Z-27-D | 8 Z-20-C (O) Z-27-D (SEC I) | 9 GMT III DIVISIONAL SCHOOL J. O. SCHOOL CRYPTO DRILL Z-27-D (SEC II) | 10 GMT III DIVISIONAL SCHOOL J. O. SCHOOL Z-27-D (SEC III) | 11 LOOKOUTS LECTURE (STEAMING WATCHES) Z-27-D (SEC I) | 12 0500 DEPART SUB G. Q. GUN SHOOT Z-20-S Z-14-CC (R) Z-1-AA(R) Z-1-NCR) Z-3-AA(O) Z-5-NCO) Z-29-G (R) Z-110-E (R) Z-21-5(O) Z-1-E(R) | 13 SF-1, 6-M (R) FOR ALL DEPARTMENTS GOLT NBC LECTURE TRAINING BOARD Z-27-D (NIGHT) |
| 14 | 15 MIL/LEAD EXAMS E-3 EXAMS | 16 ARRIVE YOKO DIVISIONAL SCHOOL J. O. SCHOOL CRYPTO DRILL Z-27-D (SEC II) | 17 DIVISIONAL SCHOOL J. O. SCHOOL BLOOD DONATIONS Z-27-D (SEC III) | 18 Z-27-D (SEC I) | 19 FIELD DAY Z-27-D (SEC II) | 20 DEPART YOKO C. O. PERS INSP. C. O. ZONE INSP. |
| 21 | 22 G. Q. BATTLE PROB. Z-6-D Z-10-D Z-24-D Z-27-D | 23 DIVISIONAL SCHOOL J. O. SCHOOL CRYPTO DRILL | 24 DIVISIONAL SCHOOL J. O. SCHOOL | 25 TELEPHONE TALKER DRILL (GQ TALKERS) | 26 FIELD DAY SF-2, 5-M (R) FOR ALL DEPARTMENTS | 27 GOLT NBC LECTURE TRAINING BOARD Z-27-D (NIGHT) |
| 28 ARRIVE PEARL Z-27-D (SEC III) | 29 COMSERVPAC VISIT G. Q. Z-10-D NBC LECTURE Z-27-D (SEC I) | 30 DEPART PEARL DC LECTURES DIVISIONAL SCHOOL J. O. SCHOOL CRYPTO DRILL | 31 DC LECTURES DIVISIONAL SCHOOL J. O. SCHOOL | 1 AUG HAND GRENADE & SMALL ARMS TRAIN- ING FOR SUPPLY & ENGINEERING | 2 AUG FIELD DAY | 3 AUG C. O. ZONE INSP. C. O. PERS INSP. 5 AUG ARRIVE SFRAN |

Figure 2-4.—Sample monthly training plan.

GENERAL RECORD (TYPE 1)
OPNAV FORM 1500-30 (10-60)

PERIOD COVERED: JULY 1981

[illegible]

Figure 2-5.—TYCOM required training exercises, trials, and inspections.

Chapter 2—TRAINING

GENERAL RECORD (TYPE III)
OPNAV FORM 1500-32 (10-60)

PERIOD COVERED: FROM 1 JULY 1981 TO 30 JUNE 1982

TITLE SECOND DIVISION DRILL / INSTRUCTION SCHEDULE

| MONTH | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUNE |
|---------------------|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|
| DAY OF THE MONTH | 1 | | SUN | | | | | | | | | |
| | 2 | | HOL | | | | | | | | | |
| | 3 | BM1 | SAT | BM21 | | | | | | | | |
| | 4 | HOL | SUN | I70 | | | | | | | | |
| | 5 | | | | | | | | | | | |
| | 6 | SAT | | | | | | | | | | |
| | 7 | SUN | | SAT | | | | | | | | |
| | 8 | | | SUN | | | | | | | | |
| | 9 | T50 | | BM18 | | | | | | | | |
| | 10 | I5 | SAT | D3 | | | | | | | | |
| | 11 | | SUN | D4 | | | | | | | | |
| | 12 | | | | | | | | | | | |
| | 13 | SAT | | | | | | | | | | |
| | 14 | SUN | | SAT | | | | | | | | |
| | 15 | | | SUN | | | | | | | | |
| | 16 | D10 | | B2 | | | | | | | | |
| | 17 | D52 | SAT | I45 | | | | | | | | |
| | 18 | BM7 | SUN | | | | | | | | | |
| | 19 | | | I86 | | | | | | | | |
| | 20 | SAT | | | | | | | | | | |
| | 21 | SUN | | SAT | | | | | | | | |
| | 22 | | | SUN | | | | | | | | |
| | 23 | | | T50 | | | | | | | | |
| | 24 | PF20 | SAT | BM6 | | | | | | | | |
| | 25 | BM30 | SUN | BM4 | | | | | | | | |
| | 26 | BM31 | | | | | | | | | | |
| | 27 | SAT | | | | | | | | | | |
| | 28 | SUN | | SAT | | | | | | | | |
| | 29 | I9 | | SUN | | | | | | | | |
| | 30 | | | | | | | | | | | |
| | 31 | | SAT | | | | | | | | | |
| WEEKLY OR BI-WEEKLY | 1ST | | | | | | | | | | | |
| | 2ND | | | | | | | | | | | |
| | 3RD | | | | | | | | | | | |
| | 4TH | | | | | | | | | | | |
| | 5TH | | | | | | | | | | | |
| MONTHLY | | | | | | | | | | | | |
| QUARTERLY | | | | | | | | | | | | |
| SEMI-ANNUAL | | | | | | | | | | | | |
| ANNUAL | | | | | | | | | | | | |

(SEE REVERSE FOR INSTRUCTIONS AND/OR EXPLANATION OF ENTRIES)

Figure 2-6.—Division training schedule.

SHIPBOARD ELECTRONICS MATERIAL OFFICER

| DATE PREPARED OR PERIOD COVERED: FROM 1 JULY 1981 TO 30 JUNE 1982 | | | | |
|---|------------------------------|------|-------------------|--|
| TITLE Legend of Coded Drills/Instruction Periods | | | | |
| COLUMN CAPTIONS | Type Drill/Instruction | Code | FXP or TYCOM No. | NAVPERS 18068 Rqmts & References, Films, etc. |
| | Flashing Light Drill | SM7 | Z-7-C | 86014-18; FXP 3 |
| | Radar Tracking Drill | OS10 | Z-10-CC | 87310; FXP 3 |
| | Hoisting & Lowering Boats | BM1 | Z-11-S | 34067; Man Overboard Drill |
| | Boat Crew Drill (in port) | B2 | | 34067; BM 3 & 2 |
| | Telephone Talker Drill | T50 | | NAVPERS 14005A |
| | Handling & Firing .45 cal | A13 | 50-G | 905202; GM 3 & 2 |
| | Lighting-off Boiler | BT7 | | 31159; Film MN-2356A |
| | Inland Rules (lights) | QM31 | | 87327; CG-169 |
| | IC Doctrine & Circuitry | IC21 | | 28390; 44474; Battle Bill |
| | PMS | ET11 | | OPNAV 4790.4 series |
| | Tuning AN/URC-32 | | Z-5-C | 0967-LP-066-7010 |
| | L.O. Transfer & Purification | MM6 | Z-28-E | Plan: AF58-S4501-148405C |
| | Fractures & Splints | F9 | SF-9-M SF-10-M | HM |
| | Gen. Mil. Training - Unit I | I1 | | OPNAVINST 1500.22 series |
| | Physical Fitness (AEROBICS) | PF20 | | OPNAVINST 6110.1 series |
| | DC Material Readiness | D10 | Z-10-D | Battle Bill & DC Manual |
| | NBC Decontamination | D52 | Z-52-D | NBC Bill |
| | Security Orientation | I5 | | OPNAVINST 5510.1 series |
| | Career Counseling | I9 | | |
| | UCMJ Apprehension/Restraint | U7 | | UCMJ Art. 7-14 |
| | Financial Planning, Part I | I13 | | Base Legal Officer (Cohen & Hanson) "Per Fin" |
| | SGLI Conversion | I45 | | Prudential Life Ins. |
| | Traffic Safety Presentation | I70 | | Calif. Highway Patrol |
| | Narcotics Presentation | I86 | | SFRAN Police Dept. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

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Figure 2-7.—Division training schedule (reverse side).

Forms additional to those pictured are:

Division Officer's Personnel Record Form,
NAVPERS 1070/6

Record of Qualifications at Battle Stations
General Record (Type II) OPNAV Form
1500-31

The training officer will normally prepare the long-range training schedule and the monthly training plan. Inputs to these two plans as well as the responsibility for carrying out divisional training plans are usually the EMO's responsibility.

The training requirements set forth by the type commander are a primary consideration of the planning board in establishing the training schedules. Ship exercises often require the services of other ships and aircraft or of qualified observers from another command. Naturally, whenever external assistance is required, more emphasis must be placed on advance planning and scheduling.

The Long-Range Training Schedule

The long-range training schedule is the most important training outline aboard ship. When properly used, it is the basic instrument for making and recording the plans for all training, and for keeping ship's personnel informed of projected training aims and operating schedules. In general, this schedule should contain enough information to guarantee that the overall coordination and planning of the shipboard training effort will be effective. It should provide the framework for the preparation of the quarterly and monthly training plans. For purposes of clarity and easy comprehension, the long-range schedule should be kept free of minor details which might obscure its broad outlines.

Initially, this schedule is prepared at the beginning of a ship's overhaul period, and covers the entire training cycle (period between regularly scheduled overhauls). Upon receipt of the quarterly operating schedules from the fleet or type commander, the training schedule is revised to reflect all significant changes in the previously planned employment of the ship. Copies of the current quarterly training schedule

should be posted on the crew's bulletin board for general information and guidance of all hands. Figure 2-3 illustrates a typical page of a long range training plan prepared on OPNAV Form 3120.1A.

Quarterly Training Plan

The quarterly training plan is an integral part of the long range plan, consisting of one sheet of the latter updated to reflect the latest information on ship's employment, and setting forth in significant detail the ship's training intentions for a given quarter.

The plan is prepared by filling in the details of the subsequent quarter of the long range training plan. It is prepared by the training officer who submits the schedule after consultation with the training board and commanding officer at the beginning of each quarter.

Monthly Training Plan

The monthly training plan (fig. 2-4) provides a schedule of training, evolutions, and operations for a given month. It shows all ship-wide training, evolutions, and operations scheduled by the quarterly training plan. On larger ships the plan may be prepared at the departmental level.

On receipt of the monthly training plan, the division's training requirements should be penciled in for that month. As the divisional events are completed, the penciled entries should be changed to ink, thus providing a record of training at the divisional level.

TYCOM Required Training

The training officer should maintain a record of completed exercises, trials, and TYCOM required training. The Type I form shown in figure 2-5 may be substituted for by an automatic data processing readout when available.

Division Drill and Instruction Schedule

Each division officer, under the supervision of the department head, should keep a record of all operational bills, team training periods, and

instruction periods peculiar to the division. Department heads (or department training officers) should ensure that drills for various divisions within a department are coordinated when necessary. The schedule and record of division and interdivision instruction periods assist in planning for and recording the accomplishment of formal lectures and demonstrations or the showing of training films to groups of technicians or officers. The division schedule may also be used to reserve periods for supervised self-study of advancement-in-rate training or correspondence courses. In connection with scheduling of instruction periods, it should be noted that heavy reliance cannot be placed on on-the-job training and individual study unless time is allowed for self-study, tutoring, and supervision of subordinates.

The division training schedule (fig. 2-6 and 2-7) should be kept on both sides of a Type III form, (OPNAV FORM 1500-32) each sheet of which covers a period of one full year. Because of space limitations, entries on the front side are necessarily abbreviated or coded. The reverse side is designed for entering information, instructions, or remarks which explain the data recording on the front side.

Figure 2-7 is a sample of the reverse side on which should be listed all the various drills and exercises and instruction periods that apply to the division. Two-letter or three-letter abbreviations and serial numbers should be used to supply short drill numbers for use on the quarterly and monthly schedules (for example, ET 11-PMS). One-letter codes are reserved for basic training subjects. Often there will be no standard lesson plans provided for division training periods. In that event, the only required entries on the reverse side will be the subjects of any lectures or demonstrations which will be conducted or have been conducted, together with a serial number for each subject. Applicable NAVPERS 18068 requirements, references, texts, manuals, and films should also be listed on the legend as shown in the figure 2-7 sample.

Divisional training appearing on the completed schedule should be placed in the appropriate space on the monthly training plan. For example, a divisional damage control lecture could be scheduled the same day as a General

Quarters, (GQ). This is done by penciling in the scheduled drill on the monthly training plan.

Personnel Advancement Requirement (PAR)

The purpose of the PERSONNEL ADVANCEMENT REQUIREMENT (PAR) is to: (1) individualize advancement requirements for each rating and for rates within the rating; and (2) provide a consolidated checklist that individuals can use in preparing for advancement and that commands can use in their evaluation of the individual in determining readiness for advancement. The PAR can serve as the basis for recommending an individual for advancement; it can provide a record of progress toward and a history of advancement. A PAR form is shown in figure 2-8.

PAR is designed as a checklist of the various minimum requirements for advancement. It is presented in three sections: Section I lists the various administrative requirements; Section II lists formal schools and other training requirements (if any) and recommended training for improved performance in rating; Section III lists occupational and military ability requirements. Section III is based on the current occupational standards as published in Section I, *Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards*, NAVPERS 18068 series.

Record of Qualifications at Battle Stations

This record shows the knowledge and skills required of personnel who man battle stations, such as gun crews, CIC, and repair parties. These crews assemble and are trained as a team only during periods of general quarters or condition watches. They are, in effect, organized groups only for the purpose of performing their assignment at General Quarters.

The record is kept on a Type II form by the officer or petty officer in charge of the battle station. Provisions should be made to record:

1. Items of desired knowledge
2. Qualifications for the various duties at the battle station
3. Proficiency in carrying out important machinery casualty procedures

Chapter 2—TRAINING

NAVPERS 1414/4 (ET) (REV. 10-78)
S/N 0106-LF-014-0663

| PERSONNEL ADVANCEMENT REQUIREMENT (PAR) | | |
|--|-------------|-----------------|
| ELECTRONICS TECHNICIAN (ET) | | |
| Requirements for advancement to: <div style="text-align: center;">ELECTRONICS TECHNICIAN THIRD CLASS (ET3)</div> | | |
| Section I. Administrative | Date | Initials |
| 1. Length of Service - 2 years | | |
| 2. Time in Rate - 6 months | | |
| 3. Pass E-4 military/leadership examination | | |
| Requirements for advancement to: <div style="text-align: center;">ELECTRONICS TECHNICIAN SECOND CLASS (ET2)</div> | | |
| Section I. Administrative | Date | Initials |
| 1. Length of Service - 3 years | | |
| 2. Time in Rate - 12 months | | |
| 3. Pass E-5 military/leadership examination | | |
| Section II. Formal School and Training | Date | Initials |
| 1. Navy Training Course "Military Requirements for Petty Officer 3 & 2 .. | | |
| 2. Study Guide for Electronics Technician | | |
| Requirements for advancement to: <div style="text-align: center;">ELECTRONICS TECHNICIAN FIRST CLASS (ET1)</div> | | |
| Section I. Administrative | Date | Initials |
| 1. Length of Service - 7 years | | |
| 2. Time in Rate - 2 years | | |
| Section II. Formal School and Training | Date | Initials |
| 1. Navy Training Course "Military Requirements for Petty Officer 1 & C" . | | |
| 2. Study Guide for Electronics Technician | | |

Figure 2-8.—Personnel Advancement Requirement (PAR).

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When an individual is transferred, battle station qualifications should be recorded in "Remarks" of the division officer's personnel record form, NAVPERS 1070/6.

TRAINING RESPONSIBILITIES OF THE EMO

When new electronics personnel report aboard, they should fill out a Division Officer's Personnel Record Form, NAVPERS 1070/6. This form is to be reviewed along with the individual's service record for background information covering his formal education, professional experience, and performance evaluations; and is to be used as a basis for a personal interview. From the information gained during the interview and consultation with the senior technician, it can be determined where the individual may be placed within the repair organization to most effectively utilize special abilities.

During the personal interview, the division officer must be ready and eager to talk with any of the personnel about their problems, either professional or personal. These talks will yield additional details about the electronics installation, how the division is working as a team, as well as how the individual is developing. These talks will also afford an opportunity to build toward team work by instilling positive attitudes.

Each individual should understand that before advancement can be considered, certain rate training manuals must be studied and certain non-resident career courses (NRCC) must be completed. Additionally, both the military and practical requirements (PARS) for advancement must be completed. Finally, the command recommendation must be given, and a Navywide competitive examination must be passed (except for E8 and E9). Study material may be found in the *Bibliography for Advancement Examination Study*, NAVEDTRA 10052 series.

Additionally, formal schooling must be completed if required. Completion of all of the above does not necessarily mean immediate

advancement; openings in the next higher pay grade will occur in accordance with quotas and complements established by the Naval Military Personnel Command (NMPC).

The EMO is responsible for the effectiveness of the division training program including what texts and training aids are available and which are most suitable. This information may be obtained from several sources:

1. Onboard equipment technical manuals
2. *Navy Electricity and Electronics Training Series* (NEETS), NAVEDTRA 172-XX-00-79
3. *NAVSUP Forms and Publications Catalog*, NAVSUP 2002.
4. *List of Training Manuals and Correspondence Courses*, NAVEDTRA 10061 series
5. *Electronic Information and Maintenance Books* (EIMB), NAVEDTRA 0967-LP-000-XXXX
6. Current and recent issues of *Electronics Information Bulletins* (EIB), NAVSEA 0967-LP-001-XXXX
7. Current Navy film catalogs
8. Rate training manuals pertinent to the division
9. Other special texts suitable for electronics study
10. Publications Applicability List (PAL)

In planning the training program, the requirements of other shipboard training programs should be borne in mind. Cooperation with other division officers may make it possible for you to take advantage of their training programs for subjects such as damage control, personal hygiene, and first aid.

ELECTRONICS TRAINING

The primary purpose of the electronics training program must be to ensure that the personnel

assigned to the electronics division know how to maintain the electronic equipment to ensure its peak performance. The electronics material officer is responsible for establishing and supervising the training program. In addition, the EMO may be responsible for training equipment operators since the effectiveness of electronic equipment is also dependent upon the operation of the equipment. The quantity and kinds of electronic equipment, the number and capability of the personnel onboard, and the mission of the ship dictate training needs.

SHIPBOARD INSTRUCTOR TRAINING

The major burden of instruction will rest with the petty officers; therefore, each must become a well-qualified instructor to truly fulfill his role in the Navy. A natural tendency in the selection of an instructor for a particular subject is to choose the most qualified person on that subject. This may ensure the highest quality of instruction, but it tends to place the entire burden of instruction in the hands of a few senior petty officers and stifle the enthusiasm of the junior petty officers. To develop instructor ability at all division levels, make it a point to choose instructors from the ranks of the junior petty officers, and even the nonrated personnel.

In order to teach a subject, the instructor must be completely familiar with it; and, in the case of a junior petty officer, this will likely entail preliminary study which will be of significant benefit to the instructor and the group to be instructed. Provision should be made in the training program for instruction in training techniques. Instructor training schools conduct courses of instruction in training techniques, and should be utilized to form a nucleus of instructor-trained personnel. These personnel can then be used as instructors for training the rest of the petty officers on board ship.

An important element of the training is that of feedback from the trainees. One aspect of this includes instructor quality evaluation. A method of gaining this information from senior and junior trainees and supervisors is the critique sheet. Positive critical comments directed to the instructor will enable self-corrections to be made and training to improve.

Another aspect of training feedback is observed performance on the job by trainees. Is there evidence of poor technical performance on repair work, preventive maintenance, or any other activity for which the technician has been trained? The senior petty officers should be alert for signs of knowledge weaknesses when planning training.

A survey of subject matter desires by the technicians provides another source of feedback for the EMO to use in training plans, as do advancement in rate examination results for the division. Very often these results are ignored even though weak areas of knowledge are pinpointed in the reports each person gets back after the advancement examinations are scored.

A training plan is easy to formulate considering the many available indicators of weaknesses. It is the proper execution of that training program that is the challenge. Your challenge will be to properly execute the training program. Your effectiveness will be readily seen in the skill level and morale of the people you have trained.

TYPES OF NAVY TECHNICAL TRAINING

In carrying out training responsibilities, the EMO must keep informed of the quotas and entrance requirements for naval schools which offer training in electronics. In order to motivate personnel to improve their general education, the EMO must also be alert to programs and courses offered through the educational services office. On small ships the EMO often performs this function personally.

Service Schools

Navy schools fall into three types:

1. Enlisted service schools, Class "A," and "C", and other specific purpose schools
2. Fleet schools at fleet shore based training activities
3. Short courses conducted by various type commanders
4. Short courses conducted by Mobile Technical Units (MOTUs)

Class "A" schools provide basic technical knowledge and skills required to prepare personnel for the lower petty officer rates. Class "C" schools train enlisted personnel in a skill which is usually related to a specific equipment or a special knowledge requirement.

Fleet Training Schools

Fleet training schools offer courses which are of an equipment operation or team training nature. The electronics material officer must review the courses offered and advise the operations officer when overall performance will be increased by operator attendance. These courses may also be used to provide strikers and petty officers with basic information in equipment operation.

Short Courses

Several type commanders conduct short courses of instruction in various electronic equipments. Training is given on a specific piece of equipment by a specialist in the field. The electronic equipment concerned is usually used for instruction, providing real on-the-job training. The courses are short and the knowledge gained far outweighs the loss of time to the ship. The courses offered, their subject matter, and the frequency with which they are given, are governed by the requirements of the fleet. The information concerning courses is promulgated locally, and ships of a command are usually aware of them. When it is desired that ETs be instructed on a particular equipment for which a course does not presently exist, the need should be made known and a special course requested through TYCOM. Very often when in port you can develop personal contact by phone with training personnel at TYCOM and at training facilities. This extra effort is well worthwhile, as you may discover unexpected training openings, especially at local installations where travel funds will not be needed.

School is also conducted by Mobile Technical Units (MOTU) both in classrooms ashore and OJT aboard ship. There is no catalog for these schools but the type of school available can be determined from regular MOTU bulletins and by liaison with the local MOTU. As EMO, you should make direct contact with MOTU

personnel to identify training needs so your personnel can take advantage of MOTU conducted training sessions. The MOTU's are tasked with providing OJT on any equipment for which they have the capability. The EMO should not wait until his equipment breaks because of inadequate maintenance before requesting MOTU OJT.

Obtaining School Quotas

The *Catalog of Navy Training Courses* (CANTRAC), NAVEDTRA 10500, contains information on schools and courses under the purview of the Chief of Naval Education and Training and Amphibious Forces, Atlantic and Pacific, and other Navy Training Commands. OPNAVINST 1500.21B expanded Chief of Naval Education and Training's (CNET) responsibilities to provide for centralized production of CANTRAC to include all catalogs previously produced by separate commands.

The function of CANTRAC is to provide a consolidated centrally produced and computerized catalog presenting courses in standardized form. CANTRAC is organized in three volumes (I, II, and III). Volume I is printed in hard copy, while volumes II and III are on 4 x 8 microfiche.

VOLUME I — INTRODUCTORY, GENERAL INFORMATION, AND QUOTA CONTROL NOTES.—Includes all general information not subject to frequent changes. Volume I will continue to be printed in hard copy and published annually. This volume is subdivided into three sections as follows:

a. Section I — Introduction. Introductory comments; organization of CANTRAC; explanations of pertinent terms, headings, and course number breakdown.

b. Section II — General Information on Facilities. Lists such information as seasonal uniform changes, quarters availability, mess availability, and any other pertinent information relative to schools operated by the Navy. In some instances, information common to a single geographical area, schools command, or other training complex may be grouped under the activity to which it pertains.

c. Section III — Quota Control Notes. When sufficient information cannot be presented in the Quota Control segment of the course description refer to this section of Volume I.

VOLUME II — CANTRAC COURSE DESCRIPTIONS.—Format and revisions are as follows:

a. Catalog Format. All courses are arranged in numerical sequence (disregarding the command identifier) by Course Identifying Number (CIN).

b. Revision Frequency. Volume II and Volume III will normally be published every three (3) months; however, the time between publications may be altered, contingent on the volume of changes received during that period.

VOLUME III — CANTRAC CONVENING SCHEDULES.—A numerical index of CIN's that gives course short title and short location, convening dates and Course Data Processing (CDP) number for each location. Some courses do not have regular convening dates, thus none are given. In this case refer to the "Convening Information" segment within the course description. This volume is devoted to information subject to frequent change and will be published along with Volume II. This information is provided by the NITRAS System.

KEYWORD INDEX.—The keyword index of course long titles will be produced with each edition of the CANTRAC. Course titles are listed in alphabetical order by key words appearing in the title. Titles and related course numbers may appear five or six times in the index, depending on how many key words appear in the title. Course titles with identical key words will be grouped together.

The following is a suggested listing of logical steps for the EMO to take to support and obtain a school quota:

1. Determine the equipment on which personnel require training, and where the school that can conduct the training required is located. Eliminate schools when personnel can be sufficiently trained by on-the-job or cross training.

2. Check and record training course information from the appropriate catalog. This listing should contain information on course scope, length, prerequisites, obligated service, location, convening dates, and security clearance required.

3. Plan schools quota request well in advance of class convening date.

4. List the ship's inport, yard, or availability periods. Correlate this list with the class convening dates to establish when personnel may be sent to the school with minimum loss of at-sea time.

5. Turn in to the operations officer these facts and the names of the personnel who will attend the schools, along with a request to TYCOM for school quotas. The request to TYCOM will include:

- Course number, location, desired convening date and an alternate date
- Name, rate, social security number, NEC, SDCC (and/or PRD as appropriate) and EAOS, as extended, of candidate
- Present duty station of the candidate

The TYCOM provides funding for all equipment schools. Differences in the handling of the quota requests occurs after TYCOM approval and is described in the following paragraph.

The school quota request for a NMPC controlled school is forwarded to the rating control section of NMPC. Providing there is a quota available, it will be returned by NMPC along with the type of quota, class convening date, and the authority for transfer. However, should the request be denied because of a fully assigned quota at the school at the time of request, the EMO should maintain liaison with the school to take advantage of any quota cancellations. If there has been a cancellation within three working days of the class convening date, NMPC will normally reassign the quota to be filled by the school. Further information on service schools is contained in the *Enlisted Transfer Manual*, NAVEDTRA 15909 series, and CANTRAC, NAVEDTRA 10500.

The EMO should verify the security clearance required for the school from CANTRAC and insure that the candidate's orders are annotated with the appropriate clearance.

COMTRALANT quotas are filled by Fleet Training Center, Norfolk, Virginia, and COMTRAPAC quotas are filled by COMTRAPAC at San Diego, California (unless otherwise indicated).

As previously mentioned, school is also conducted by Mobile Technical Units (MOTU). There is no catalog for these schools but the type of school available can be determined by liaison with the local MOTU. As EMO, you should make direct contact with MOTU personnel to identify training needs so your personnel can take advantage of MOTU conducted training sessions.

Shipboard Classes Combined With On-The-Job Training

The EMO establishes classes in the fundamentals of electronics and electricity for the personnel who have not attended Class-A school. These classes should help personnel understand the theory behind their on-the-job practical work, and should emphasize safe practices both generally and in specific situations. These classes, combined with practical experience, will provide the background needed in order for further training to be effective.

Major shipboard training is received on the job. Since the ultimate purpose of classroom instruction is to supplement on-the-job training, class work must be tied in as closely as possible with practical jobs.

To make the training as useful as possible, practical as well as theoretical problems must be considered. One of the first practical subjects taught is the correct use and care of the tools. This subject must be emphasized both on the job and in the classroom through discussion, demonstration, and practice. The purposes of the various electronics testing equipment including proper usage and care for them are also taught.

The technicians should be encouraged to bring to class problems they have had on the job. They should explain the symptoms of an equipment failure and describe what they did

to determine the cause of the failure and what they did to remedy the trouble. The technical manual and the service notes section of the *Electronics Installation and Maintenance Book*, NAVSEA 0967-LP-000-0000, for the equipment in question should be brought out. Frequently, the group will go to the equipment itself in order to understand just what caused the failure and what was done to diagnose and remedy it. In this way, the technicians as a group should learn from each other's individual experiences on the job.

Personnel Qualification Standards (PQS)

PQS is an element of an overall unit training program for both afloat and aviation communities. As an element of training, PQS must be incorporated as the keystone program for unit Watchstation or Work Center qualification. To manage the PQS program effectively, the responsible officer should assign to each individual a specific qualification goal and the time frame expected for completion of the qualification. In this regard, the Division Officer and Leading Petty Officer should conduct individual interviews with newly reported personnel to evaluate their past experience and qualifications (if any) and general background. After the PQS program has been explained, provide a PQS package and assign specific completion dates as to which Fundamental, System, and Qualification goals are to be accomplished. Also give the individuals information as to how much time they should spend each week on training to accomplish the established goals. This procedure will permit the individuals to know what they are qualifying for and when they are required to have their qualification completed.

A detailed description of PQS and its implementation may be found in Personnel Qualification Standards (PQS) Manager's Guide, NAVEDTRA 43100-1 series.

Navy Campus Program Afloat (PACE)

The Navy Campus voluntary education program for personnel assigned to a ship is called PACE (Program for Afloat College Education). Classes provided at sea are delivered under

contract with civilian colleges and universities. The Navy Campus contracts with universities, colleges, and junior colleges to provide academic and vocational courses to all fleet units. The Education Services Officer can find out what is available on your ship and when the courses will begin. If the ship is in port, the Navy Campus Education Specialist can provide needed information.

The Navy Campus for Achievement

The Navy Campus for Achievement is an educational program designed to give every Navy person an opportunity for college education.

Under this program each person desiring a college degree has the opportunity of meeting with a professional education advisor to discuss academic background and ambitions and to develop an academic path or degree program designed especially to meet the individual's personal and professional goals. This program is most utilized when personnel are assigned ashore; however, yard periods often afford opportunities for on-campus instruction. Tuition aid and inservice VA are often used to assist with tuition fees.

Correspondence Courses

Correspondence courses are still another method of training. The EMO should encourage all ETs to enroll in all applicable training courses. When they complete the required courses, they should be encouraged to take others that will help them when they take their examinations for promotion. Applications for correspondence courses are handled by the education services officer.

TRAINING OF OPERATOR PERSONNEL

The operator must be familiar with the equipment used. His knowledge adds confidence and professionalism to the job while saving the technician many needless hours making operational adjustments.

The following is an example of what can and does happen on a typical Navy ship that does not

utilize technicians in the training of operator personnel. During the morning the technician:

1. Sets up an hf transmitter on frequency.
2. Begins work on a defective uhf transceiver, but at the end of 20 minutes is called to investigate the primary tactical circuit and finds that the bridge loudspeaker amplifier has been accidentally turned off.
3. Resumes work on the uhf transceiver; but, at the end of 10 minutes, is called by the radiomen to check an hf transmitter and finds the transmission selector switch in the wrong position.
4. Answers a bridge message that another ship has reported the primary tactical voice circuit "garbled," finds audio feedback path from handset earphone to microphone, and reduces handset volume.
5. Returns to work on uhf transceiver, but is asked by the radioman in the uhf space to check the tuning of several uhf transceivers.

Almost 50 percent of this technician's time could have been saved by proper training of operator personnel.

It is the responsibility of the senior electronics petty officer to train or ensure the training of operator personnel so they can properly perform the preventive maintenance procedures as outlined in the Planned Maintenance System (PMS) program, or as assigned by the electronics material officer. An operator's duties should be limited to nontechnical procedures or to the performance of simple maintenance operations for which adequate training has been given. Improper or inadequate training of any of the personnel for the performance of the maintenance operations may result in unnecessary equipment breakdown and/or prove hazardous to personnel.

An operator should be trained to perform preventive maintenance only on that equipment to which he may be assigned according to the Planned Maintenance Schedule. The technician designated to train the operator should be the one assigned maintenance of that specific equipment.

ADVANCEMENT OF ENLISTED PERSONNEL

Practical experience gained from the performance of regular duties, and theoretical knowledge gained from instructional programs, manuals, and textbooks, gradually qualifies the enlisted person for higher levels of responsibility.

Performance Evaluation System

Divisional personnel should be recommended by the EMO for advancement in rate only if and when they are in all respects fully qualified to hold the higher rate. Advancements should not be made in the nature of rewards for faithful or extended service or simply because the minimum service requirements have been fulfilled. It is poor personnel administration to advance a person (or to recommend a person for a change in rating) to a position for which that person is not fully qualified.

Over the years, the Navy has endeavored to be selective in accepting personnel for enlistment. Therefore, the vast majority of enlisted personnel will be competent in the performance of their duties. The average Navy enlisted person is one whom any commanding officer would welcome into the command. To make the enlisted performance evaluation system successful, it is desirable to assume that each command has an average crew. The proportion of individuals who exceed or fall below the average in performance, then, would be about the same for all commands. For the overall good of the Navy, and in the interest of the great majority of enlisted personnel, the evaluation system should be related, in general, to the average crew concept.

One of the primary purposes of the evaluation system is to permit the commanding officer to influence positively the advancement opportunities of the individuals in the command. To make the performance factor in the final multiple for advancement effective, evaluations must differentiate between individuals so that credit is given according to demonstrated performance. Should all individuals be evaluated too highly, the ability to assist those individuals who are, in fact outstanding, will be reduced.

Report Forms

Another important purpose of the evaluation system is to provide specific factual information for use in selecting individuals for advancement, appointment to commissioned status, assignment to special duties, and for special education programs. NAVPERS Form 1616/5 is used to report performance evaluations on personnel E4 and below. NAVPERS Form 1616/18 is used to report the performance evaluation of enlisted personnel in paygrades E5 and E6. NAVPERS Form 1616/8 is used in reporting the performance evaluation of chief petty officers and above. Evaluations must be based objectively on the member's demonstrated performance and abilities as compared to the performance of that member's contemporaries. Therefore, it is of the utmost importance that enlisted evaluation reports be completely frank. Outstanding performance should be reported. Equally necessary is the thoroughly objective reporting of shortcomings, such as alcoholism, or other indications of unreliability. Knowledge of such shortcomings can be vital in the selection of personnel for duty assignment.

Enlisted Advancement Examinations

Service-wide examinations for advancement in rate are conducted on a semiannual basis for paygrades E4 through E6, and on an annual basis for pay grade E7. These examinations in each rating are developed by the Naval Education and Training Program Development Center, Pensacola, Florida.

Military Leadership Examinations (E4/E5) are standardized Navy wide, but are administered locally. Once this examination has been passed, the individual need not retake it, although he may have failed the rating examination or may not have passed the rating examination with a sufficient score to fill the quota allowance.

Manual of Enlisted Manpower and Personnel Classifications and Occupational Standards, NAVPERS 18068-D series, (with changes) is the basic reference regarding qualifications, along with other current Instructions, Notices, and publications.

SOURCES OF INFORMATION ON TRAINING

The following sources of information will be useful in establishing and administering a training program aboard ship:

Standard Organization and Regulations of the U.S. Navy, OPNAVINST 3120.32 series, provides the basic policy and requirements as set forth by OPNAV.

Training Publications for Advancement, NAVEDTRA 10052 series, lists the training courses and other publications prescribed for use by all personnel concerned with advancement in rate, training, and examinations. It is revised annually.

List of Training Manuals and Correspondence Courses, NAVEDTRA 10061 is

revised annually and lists the latest available training manuals and correspondence courses.

Catalog of Navy Training Courses (CANTRAC), NAVEDTRA 10500 was discussed earlier in the chapter.

In addition, CANTRAC includes information concerning the Joint Colleges, Foreign Staff Colleges, and schools of other branches of the Armed Services in which the Chief of Naval Education and Training is granted a student quota.

Catalogs of Training Courses—You can also obtain information for quota requests from catalogs prepared and distributed by various type commanders. These are publication-type instructions in which the commanders list all courses under their management control for which they have quota control.